Customer No.: 31561 Docket No.: 13794-US-PA

Application No.: 10/711,160

**AMENDMENTS** 

In the Specification:

Please amend the following paragraphs as follows.

[Para 9] With the transparent  $\frac{\partial - \sinh \pi}{\partial - \sinh \pi}$  end portion of the isolated linear pattern on

the photomask, the line-end shortening effect of the resulting isolated linear photoresist

pattern can be reduced. Meanwhile, the transparent  $\frac{\partial}{\partial z} = \frac{\partial}{\partial z} = \frac{\pi}{2}$  region located

adjacent to the ends of the dense linear patterns on the photomask can reduce the line-end

shortening effect of the resulting dense linear photoresist patterns.

[Para 18] To demonstrate the effects of this invention, some simulations have been made

to derive the LES values of the isolated/dense photoresist line patterns obtained by using

a conventional HT photomask of FIG. 1 and the phase shift photomask of FIG. 2,

respectively. As the common parameters used in the simulations, the wavelength of the

exposure light is 193nm, the line/space width is 90/90nm, and the gap width (G) between

every two opposite line patterns is 100nm. In addition, the length "L" of the transparent

 $\frac{\partial - \sinh ift}{\partial - \sinh ift}$  end portion 210a of each isolated line pattern 210 is 200nm. The results

of the simulations are listed in Table I.

[Para 19] As shown in Table I, with the transparent  $\frac{\partial}{\partial - \sinh t} \frac{\pi - \sinh t}{\pi - \sinh t}$  end portion of an

isolated linear pattern on the photomask, the line-end shortening of the resulting isolated

photoresist line pattern can be significantly reduced, even when the substrate is exposed

at a defocused position in the exposure process. Meanwhile, the transparent <del>d/2-shift</del>

 $\pi/2$ -shift region located adjacent to the ends of the dense line patterns can reduce the

line-end shortening of the resulting dense photoresist line patterns, even when the

substrate is exposed at a defocused position in the exposure process.

2